

FOREST EXCISE TAX -- ROAD SUMMARY SHEET

Region: Southeast

Timber Sale Name: Charlie Horse

Agreement Number: 03-071889

Excise Tax Applicable Activities

Construction: 2720 linear feet

Road to be constructed (optional and required) but not abandoned

Reconstruction: 11185 linear feet

Road to be reconstructed (optional and required) but not abandoned

Abandonment: 3400 linear feet

Abandonment of existing roads not reconstructed under the contract

Deactivation: 13905 linear feet

Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 6430 linear feet

Existing road to receive maintenance work (specifically required by the contract) prior to haul

Excise Tax Exempt Activities

Temporary Optional Construction: 0 linear feet

Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 0 linear feet

Optional roads to be reconstructed and then abandoned

New Abandonment: 0 linear feet

Abandonment of roads constructed or reconstructed under the contract

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 7/04)

Charlie Horse Timber Sale #71889
 Section 34 T15N R15E

P.M. = Purchaser Maintenance
 P-H.M. = Pre-Haul Maintenance
 D.M. = Designated Maintainer
 N.C. = New Construction
 I.S. = Inslope Road
 O.S. = Outslope Road (Inslope sections possible)
 R.C. = Reconstruction
 F.M. = Final Maintenance
 W.B. = Water Bar
 G.S. = Grass Seed
 C.Y. = Cubic Yards
 Date: December 6, 2004
 Matthew Fromherz

Road	STA's D.M.	STA's P.M.*	STA's P-H.M.	STA's N.C.	STA's R.C.	STA's I.S.	STA's O.S.	STA's Roll Dips	Install Culverts	STA's F.M.	STA's Deactivate	STA's Closure	STA's Abandon	Lbs G.S.	Lbs Fertilizer	Earth Barricade	Undrivable W.B.	Drivable W.B.	C.Y. Ballast	C.Y. Crushed
R-2000 (USFS 1400)	311.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	0.00	0	0	0	0	0	0	0
R-2500	0.00	75.95	64.30	0.00	0.00	0.00	64.30	12	1 (24"x34')	140.25	0.00	0.00	0.00	0	0	0	0	0	0	20
R-2510A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	3.50	5	8	2	1	0	0	0
R-2520A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	11.00	12	20	0	7	0	0	0
R-2530	0.00	0.00	0.00	27.20	13.90	11.00	30.10	6	0	0.00	0.00	41.10	0.00	50	80	1	16	1	0	0
R-2540A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0.00	0.00	0.00	19.50	22	38	0	8	0	0	0
R-2600	0.00	26.50	0.00	0.00	67.00	0.00	67.00	10	0	26.50	67.00	0.00	0.00	100	170	2	0	25	50	50
R-2650	0.00	0.00	0.00	0.00	5.60	0.00	5.60	1	0	0.00	0.00	5.60	0.00	8	14	0	3	0	0	0
R-2670	0.00	0.00	0.00	0.00	8.90	0.00	8.90	2	0	0.00	0.00	8.90	0.00	10	16	0	3	0	0	0
R-2690	0.00	0.00	0.00	0.00	16.45	0.00	16.45	3	0	0.00	0.00	16.45	0.00	20	35	0	6	0	0	0
Totals:	311.00	102.45	64.30	27.20	111.85	11.00	192.35	34	1	166.75	67.00	72.05	34.00	227	381	5	44	26	50	70

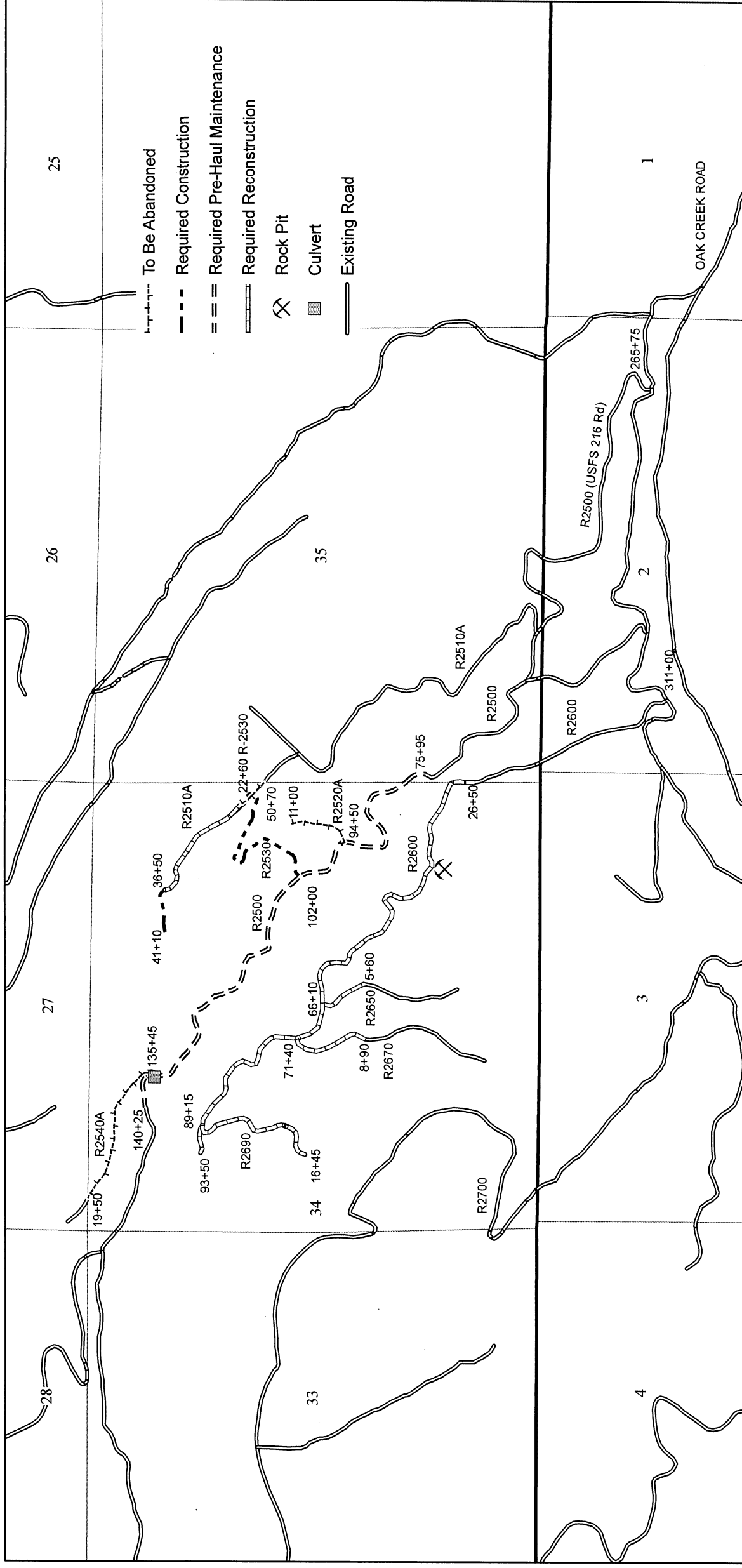
* Shape to existing conditions.

Road Plan Map 1 of 1
November 5, 2004

Region: Southeast

County(s): Yakima

Township 15 North, Range 15 East, W.M.



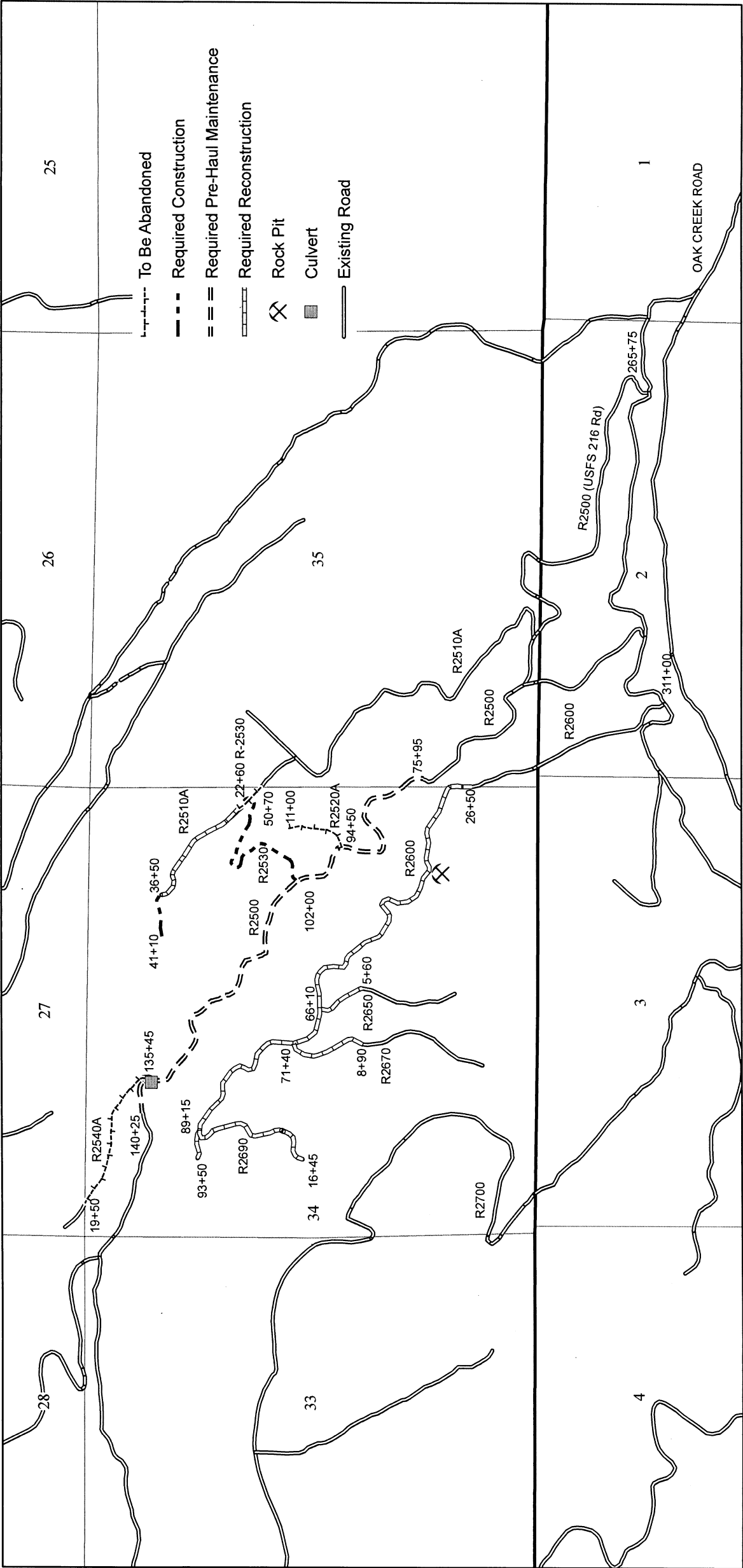
ROAD PLAN MAP

Road Plan Map 1 of 1
November 5, 2004

Sale Name: Charlie Horse
Agreement Number: 71889
Trust(s): University Transferred

Region: Southeast
County(s): Yakima

Township 15 North, Range 15 East, W.M.



Scale 1:16,500
0 750 1,500 3,000 4,500 6,000 Feet

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
DOUG SUTHERLAND, COMMISSIONER OF PUBLIC LANDS

CHARLIE HORSE TIMBER SALE ROAD PLAN
SECTION 34, TOWNSHIP 15 NORTH, RANGE 15 EAST, W.M.
YAKIMA COUNTY

AGREEMENT NO.: 30-071889

DATE: DECEMBER 6, 2004

SECTION 0 - SCOPE OF PROJECT

This project includes but is not limited to construction including:

- clearing;
- grubbing;
- right of way debris disposal;
- excavation and/or embankment to subgrade;
- including some segments controlled by construction stakes;
- construction of rolling dips;
- construction of drivable waterbar;
- road deactivation;
- road closure;
- acquisition and application of grass seed and fertilizer.

This project includes, but is not limited to reconstruction including:

- brushing right of way;
- clearing existing excavation and embankment slopes;
- grubbing existing excavation and embankment slopes;
- right of way debris disposal;
- widening road segments;
- grading and shaping existing road surface and turnouts;
- construction of rolling dips;
- spot rocking;
- road deactivation;
- road closure;
- acquisition and application of grass seed and fertilizer.

This project includes, but is not limited to pre-haul maintenance including:

- brushing right of way;
- construction of ditch;
- constructing rolling dips;
- constructing catch basin and headwall;
- culvert replacement;
- removing berms from shoulders;
- spot rocking;
- grading and shaping existing road surface and turnouts.

This project also includes but is not limited to light abandonment including:

- ripping of road surface;
- construction of earth barricades;
- construction of undrivable waterbars;
- placing of slash on road surface;
- acquisition and application of grass seed and fertilizer.

mmf

SECTION 1: GENERAL CLAUSES

SECTION 1.1: GENERAL: GENERAL CLAUSES

1.1-1
Clauses in this plan apply to all construction, reconstruction, or pre-haul maintenance including landings unless otherwise noted.

1.1-2
Construction, reconstruction, or pre-haul maintenance of the following roads is required. All roads shall be constructed, reconstructed or pre-haul maintained on the State’s location and in accordance with this Road Plan.

<u>Road</u>	<u>Station</u>	<u>Type</u>
R-2500	75+95 to 140+25	Pre-Haul Maintenance
R-2530	0+00 to 22+60	New Construction
R-2530	22+60 to 36+50	Reconstruction
R-2530	36+50 to 41+10	New Construction
R-2600	26+50 to 93+50	Reconstruction
R-2650	0+00 to 5+60	Reconstruction
R-2670	0+00 to 8+90	Reconstruction
R-2690	0+00 to 16+45	Reconstruction

1.1-3
Abandonment of the following roads is required. All roads shall be abandoned in accordance with this Road Plan.

<u>Road</u>	<u>Station</u>	<u>Type</u>
R-2510A	50+70 to 54+20	Light Abandonment
R-2520A	0+00 to 11+00	Light Abandonment
R-2540A	0+00 to 19+50	Light Abandonment

1.1-4
If the purchaser desires a road location or design change, a revised road plan shall be submitted to the State for consideration.

1.1-9
On this plan quantities are minimum acceptable values. Additional quantities required by the State because of hidden conditions or Purchaser’s choice of construction season or techniques shall be at the Purchaser’s expense. Hidden conditions include, but are not limited to: solid subsurface rock subsurface springs, saturated ground, and unstable soil.

1.1-10
On the following road, design data (plan and profiles) is available at the Department of Natural Resources Southeast Region Office in Ellensburg, WA upon request.

<u>Road</u>	<u>Station</u>	<u>Type</u>
R-2530	0+00 to 22+60	New Construction

SECTION 1.2 - GENERAL: CONSTRUCTION CONSTRAINTS

- 1.2-1
No work shall be permitted on any road included in this Road Plan between November 30 and May 1 unless authority to do so is granted, in writing, by the Contract Administrator.
- 1.2-2
Purchaser shall not use roads constructed, reconstructed or maintained under this Road Plan for hauling, other than timber cut on the right of way, without written approval from the Contract Administrator.
- 1.2-3
All construction, reconstruction or purchaser maintenance must be completed and approved in writing by the Contract Administrator prior to haul on any roads under this contract.

SECTION 1.2.1 - GENERAL: CONSTRUCTION CONSTRAINTS:
CONSTRUCTION SEQUENCE

- 1.2.1-1
Pioneering shall not extend past construction that will be completed during the current construction season. Drainage shall be provided on all uncompleted construction as approved, in writing, by the Contract Administrator.
- Clearing and grubbing shall be completed prior to starting excavation and embankment.
- Culvert placement in live streams shall precede embankment where culverts are to be placed along natural ground. Temporary diversion culverts shall be provided when designed culverts are elevated above natural ground within embankments.
- Rolling dips shall be installed in completed subgrade as construction progresses.
- Subgrade, ditches, culvert and rolling dips installation shall be completed and are subject to written approval by the Contract Administrator prior to rock application.

SECTION 1.3 - GENERAL: HAULING CONSTRAINTS

- 1.3-2
On all roads included in this road plan, timber haul shall not be permitted between November 30 and May 1 unless authorized, in writing, by the Contract Administrator.

SECTION 1.4 - GENERAL: SURVEYING/DESIGN/STAKING

- 1.4-1
The following road shall be constructed in accordance with construction stakes.

<u>Road</u>	<u>Stations</u>
R-2530	0+00 to 22+60

SECTION 1.5 - GENERAL: ROAD MAINTENANCE

1.5-1 Maintenance on the following roads shall be performed in accordance with Forest Access Road Maintenance Specifications.

<u>Road</u>	<u>Stations</u>
R-2500	0+00 to 140+25
R-2530	0+00 to 41+10
R-2600	0+00 to 93+50
R-2650	0+00 to 5+60
R-2670	0+00 to 8+90
R-2690	0+00 to 16+45

1.5-2 Per Clause C-60, maintenance on the following road shall be performed by designated maintainer. Designated maintainer shall be selected by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
R-2000*	0+00 to 311+00

*Forest Service Mainline (USFS 1400)

1.5-3 On all roads included in this road plan, snowplowing shall not be permitted unless authorized, in writing, by the Contract Administrator.

1.5-4 At termination of haul, final maintenance shall be performed on the following roads. At minimum, final maintenance shall consist of blading the road with a motor grader, removing berms, crowning or outsloping the road as specified in the Typical Section Sheet and/or Clause 6.1-1, reshaping rolling dips and/or water bars to specification, pulling ditches and cleaning culvert inlets and outlets. The finished road surface shall drain freely and shall be smooth, firm and free of chuckholes.

<u>Road</u>	<u>Stations</u>
R-2500	0+00 to 140+25
R-2600	0+00 to 26+50

SECTION 2 - CLEARING

SECTION 2.1 - R/W TIMBER

2.1-1 Fell all vegetative material larger than 2 inches dbh or over 4 feet high between the marked right-of-way boundaries or if not marked in the field, between clearing limits specified on the Typical Section Sheet.

SECTION 3 - GRUBBING

SECTION 3.1- GRUBBING: GENERAL

- 3.1-1 All stumps shall be removed that fall between grubbing limits shown on the Typical Section Sheet. Those with undercut roots shall be removed.
- 3.1-2 Grubbing limits are defined as the entire area between the external limits shown on the Typical Section Sheet.

SECTION 4 - DEBRIS DISPOSAL AND REMOVAL

SECTION 4.1 - DEBRIS DISPOSAL AND REMOVAL: GENERAL

- 4.1-1 Right-of-way debris is defined as all non-merchantable vegetative material larger than one cubic foot in volume, within the grubbing limits.

SECTION 4.2 - DEBRIS DISPOSAL AND REMOVAL: PLACEMENT

- 4.2-1 Right-of-way debris shall be scattered outside of the grubbing limits.
- 4.2-2 Right-of-way debris shall not be placed against standing timber.

SECTION 5 - EXCAVATION

SECTION 5.1 - EXCAVATION: GENERAL

- 5.1-1 Unless controlled by construction stakes or specific design sheets herein, roads shall be constructed in accordance with dimensions shown on the Typical Section Sheet.
- 5.1-2 Purchaser shall not bury merchantable material.
- 5.1-3 On the following roads, road grade and alignment shall conform to the State's marked location and drawings. Grade and alignment shall have smooth continuity without abrupt changes in direction. Maximum grades and minimum curve radii are as listed below.

<u>Road</u>	<u>Stations</u>	<u>Min. Rad.</u>	<u>Max. Grade</u>	
			<u>Favorable</u>	<u>Adverse</u>
R-2530	0+00 to 22+60	55	11	N/A
R-2530	36+50 to 41+10	60	14	6

- 5.1-4 Extra widening on the inside of curves shall be as indicated below.

2 feet extra	80 to 100 foot radius curves.
4 feet extra	50 to 79 foot radius curves.

5.1-7 Roads shall be constructed or reconstructed to the dimensions shown on the Typical Section Sheet, within the tolerance listed below. Tolerance classes for each road are listed on the Typical Section Sheet.

Tolerance Class	A	B	C
Road Width (feet)	+1.5	+1.5	+2.0
Subgrade elevation (feet+/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0

5.1-8 Excavation slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>
Common Earth (on slopes under 55%).....	1:1
Common Earth (55% to 70% sideslopes).....	¾:1
Common Earth (on slopes over 70%).....	½:1
Fractured or loose rock.....	½:1
Hardpan or Solid rock.....	¼:1

5.1-8A On the following roads, Purchaser shall construct ditches and scatter excavated material outside the grubbing limits. Pulling ditch material across the road or mixing in with the existing road surface will not be allowed.

<u>Road</u>	<u>Stations</u>
R-2500	135+45 to 136+25

5.1-9 Excavation and embankment slopes shall be constructed to a uniform line and left rough for easier revegetation.

5.1-10 Except as construction staked or designed. Embankments shall be widened as follows:

<u>Height at Centerline</u>	<u>Subgrade Widening</u>
Less than 6 feet.....	2 feet
6 feet or over.....	4 feet

5.1-11 Embankment slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>
Common Earth and rounded gravel	1-1/2:1
Angular rock	1-1/4:1
Sandy soil	2:1

5.1-12 Organic material shall be excluded from embankment.

5.1-13

Where side slopes exceed 55 percent, full bench construction shall be utilized for the entire subgrade width except as construction staked or designed.

5.1-14

Waste material may be deposited adjacent to the road prism on side slopes up to 55 percent if the waste material is compacted and more than 100 feet away from live streams. On side slopes of 55 percent or more, all excavation shall be end hauled or pushed to designated embankment sites. All waste embankments shall be compacted in horizontal layers not exceeding 2 feet.

5.1-15

When constructing landing, waste material and embankment shall not be placed on side slopes steeper than 45%.

SECTION 5.2 - EXCAVATION: PIONEER ROADS

5.2-1

Road pioneering operations shall not undercut the final cut slope, deposit excavated material outside the clearing limits or restrict drainage.

SECTION 5.3 - EXCAVATION: COMPACTION

5.3-1

All embankment and waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts. Sidehill embankments too narrow to accommodate excavation equipment may be placed by end dumping or side casting until sufficiently wide to support the equipment.

SECTION 5.4 - EXCAVATION: SEDIMENTATION

5.4-1

Sediment bearing runoff shall not be permitted to enter into streams.

SECTION 5.5 - EXCAVATION: SUBGRADE COMPACTION

5.5-1

Finished subgrade shall be shaped as specified in Clause 6.1-1 and as shown on the Typical Section Sheet. Surface shall be graded and compacted to a uniform, firm, rut-free surface to ensure runoff in an even, unconcentrated manner.

SECTION 6 - DRAINAGE

SECTION 6.1 - DRAINAGE: SURFACE DRAINAGE

6.1-1

On the following roads, surfaces shall be shaped to direct the escape of surface runoff.

<u>Road</u>	<u>Stations</u>	<u>Shape of Road Surface</u>
R-2500	0+00 to 75+95**	Shape to existing conditions
R-2500	75+95 to 140+25	Outslope 4 inches in 10 feet
R-2530	0+00 to 13+80	Outslope 4 inches in 10 feet
R-2530	13+80 to 23+60	Inslope 4 inches in 10 feet
R-2530	23+60 to 41+10	Outslope 4 inches in 10 feet
R-2600	0+00 to 26+50**	Shape to existing conditions
R-2600	26+50 to 93+50	Outslope 4 inches in 10 feet*
R-2650	0+00 to 5+60	Outslope 4 inches in 10 feet
R-2670	0+00 to 8+90	Outslope 4 inches in 10 feet*
R-2690	0+00 to 16+45	Outslope 4 inches in 10 feet

*Where sideslopes exceed 30%, surfaces shall be insloped to 4 inches in 10 feet, or as directed by the Contract Administrator.

**Falls under Purchaser Maintenance.

6.1-2

Berms shall be removed from road shoulders to permit escape of runoff.

SECTION 6.2 - DRAINAGE: CULVERTS/DOWNSPOUTS/FLUMES

SECTION 6.2.1 - DRAINAGE: CULVERTS/DOWNSPOUTS/FLUMES: GENERAL

6.2.1-1

Purchaser shall furnish, install and maintain galvanized AASHTO specification No. M36 or corrugated polyethylene tubing AASHTO classification "Type S" and AASHTO designation No. M294 culverts as designated on the Culvert List.

6.2.1-2

Annular corrugated bands and culvert ends shall be used on metal culverts. On culverts 24 inches in diameter and smaller, bands shall have a minimum width of 12 inches; on culverts over 24 inches in diameter, bands shall have a minimum width of 24 inches. Manufacturers approved connectors shall be used for corrugated polyethylene tubing.

SECTION 6.2.2 - DRAINAGE: CULVERTS/DOWNSPOUTS/FLUMES: INSTALLATION

6.2.2-1

Culvert, downspout, flume and energy dissipater installation shall be in accordance with Culvert and Drainage Specification Detail and the National Corrugated Metal Pipe Association Installation Manual for Corrugated Steel Drainage Structures. Polyethylene tubing shall be installed in a manner consistent with the manufacturer's recommendations.

6.2.2-2

At the following location, culverts that are to be replaced or removed from the roadbed shall be removed from State land prior to termination of this contract. Culverts shall be

disposed in a manner consistent with all laws and regulations.

<u>Road</u>	<u>Stations</u>
R-2500	135+45

6.2.2-6

On the following road, installation of culvert shall be in accordance with Hydraulics Project Permit issued by Washington Department of Fish and Wildlife, and the Culvert Installation Detail.

<u>Road</u>	<u>Stations</u>
R-2500	135+45

6.2.2-7

On the following road, drainage structure outfalls shall not terminate directly on unprotected soil that will erode. Energy dissipaters shall be installed to prevent erosion. Energy dissipaters shall consist of hand placed rocks weighing at least 15 pounds. Rock shall extend a minimum of 1 foot to each side of the culvert at the outlet and 2 feet beyond the outlet.

<u>Road</u>	<u>Stations</u>
R-2500	135+45

SECTION 6.3 - DRAINAGE: DITCHES

6.3-1

Ditch shall be constructed in accordance with dimensions shown on the Typical Section Sheet and shall drain freely to culvert.

6.3-2

On the following road, construction of ditch, culvert headwall and catch basin shall be completed prior to timber haul and application of rock, and shall be done in accordance with the Typical Section Sheet and Culvert and Drainage Specification Details.

<u>Road</u>	<u>Stations</u>
R-2500	135+45 to 136+25

SECTION 6.4 - DRAINAGE: CATCHBASINS

6.4-1

Catch basins shall be constructed to resist erosion. Minimum dimensions are: five feet wide and six feet long with backslopes consistent with Clause 5.1-8: Excavation-Slopes.

SECTION 6.5 - DRAINAGE: HEADWALLS

6.5-1

Hand placed rock shall be installed at the inlet of all installed culverts. Rocks shall be mortared in place. Rocks shall weigh at least 15 lbs. Rock shall extend a minimum of 1 foot above the top of the inlet and 2 feet on each side. No other method of armoring may be used without prior written approval of the Contract Administrator. All headwall work shall be completed prior to timber haul.

SECTION 6.6 - DRAINAGE: DRIVABLE WATER BARS

6.6-1

On the following road, a drivable water bars shall be constructed in accordance with the Drivable Water Bar Detail sheet at the specified location. **DRIVABLE WATER BAR SHALL BE INSTALLED AT THE TIME OF CONSTRUCTION AND SHALL BE CONTINUOUSLY MAINTAINED IN AN OPERABLE CONDITION.**

<u>Road</u>	<u>Stations</u>
R-2530	19+20

SECTION 6.7: DRAINAGE: ROLLING DIPS

6.7-1

On the following roads rolling dips shall be constructed in accordance with the Rolling Dip Detail sheet at locations as specified on the Rolling Dip List. **ROLLING DIPS SHALL BE INSTALLED AT THE TIME OF RECONSTRUCTION OR CONSTRUCTION, AND SHALL BE CONTINUOUSLY MAINTAINED IN AN OPERABLE CONDITION.** Rolling dips shall be installed with a crawler tractor. Use of other equipment shall not be permitted without prior written approval of the Contract Administrator.

<u>Road</u>	<u>Stations</u>
R-2500	75+95 to 140+25
R-2530	0+00 to 141+10
R-2600	26+50 to 93+50
R-2650	4+00
R-2670	0+00 to 8+90
R-2690	0+00 to 16+45

SECTION 7 - ROCK

SECTION 7.1 - ROCK SOURCE

7.1-1

Ballast rock under this contract may be obtained from an existing borrow source on state land in the SE1/4 of the SE1/4 of Section 34 Township 15 North Range 15 East at no charge to the purchaser. Development and use shall be in accordance with a written "Development and Reclamation Plan" prepared by the Purchaser and subject to written approval by the Contract Administrator prior to use. Operations shall be conducted as directed by the Contract Administrator and in accordance with the approved development plan. Upon completion of operations, the site shall be left in the condition specified in the plans and subject to written approval by the contract administrator. Request of use of material from any other source shall be submitted, in writing, to the Southeast Region Engineer or their designee, for consideration.

7.1-5

Crushed rock under this contract shall meet specifications in clause 7.2.1-3 and may be obtained from any commercial source as approved in writing by the Contract Administrator. Purchaser shall submit to the Southeast Region Engineer or their designee, laboratory tests for the rock to be used prior to rock application. Tests shall include degradation and Los Angeles Rattler test.

SECTION 7.2 - ROCK: MANUFACTURE

SECTION 7.2.1 - ROCK: MANUFACTURE: SPECIFICATIONS

7.2.1-3
1 1/4 INCH MINUS CRUSHED ROCK

%	Passing 1 1/4" square sieve.....	100%
%	Passing 5/8" square sieve.....	50 – 80%
%	Passing 1/4" sieve.....	30 – 50%
%	Passing U.S. #40 sieve.....	3 – 18%
%	Passing U.S. #200 sieve.....	5%

All percentages are by weight.
The portion of ballast retained on 1/4 inch sieve shall not contain more than 0.1 percent vegetative debris or trash.

7.2.1-8
Ballast rock shall not contain vegetative trash or vegetative debris, and shall not contain more than 10% dirt.

SECTION 7.4.2 - ROCK: APPLICATION: PLACEMENT

7.4.2-1
Apply at least the minimum required rock quantity as shown on the Typical Section Sheet.

7.4.2-2
Subgrade shall be subject to approval, in writing, by the Contract Administrator prior to application of rock.

7.4.2-3
A grader shall be used to shape the subgrade prior to application of rock. The finished subgrade shall be in accordance with Clause 6.1-1 and shall be smooth, firm and free of ruts and chuckholes.

7.4.2-4
On the following roads, rock shall be applied in the following sequence:

<u>Road</u>	<u>Stations</u>	<u>Lift 1</u>	<u>Lift 2</u>
R-2500	135+20 to 135+95	1 1/4" minus Crushed	N/A
R-2600	56+90 to 60+00	Ballast	1 1/4" minus Crushed

7.4.2-8
Each lift of rock shall be shaped as specified in Clause 6.1-1 and shall be uniform, firm, and rut-free to ensure surface runoff in an even, unconcentrated manner.

SECTION 9 - ROAD AND LANDING CLOSURES/DEACTIVATION

SECTION 9.1 - ROAD AND LANDING DEACTIVATION: ROAD DEACTIVATION

9.1-1

- On the following roads, deactivation shall consist of:
- outsloping the surface at a minimum of 4 percent;
 - constructing drivable water bars in conformance with the attached Drivable Water Bar Detail at a spacing which will produce a vertical drop of no more than 20 feet between water bars (or existing roll dips) and with a maximum spacing of 200 feet;
 - skewing water bars at least 30 degrees from perpendicular on roads in excess of 3 percent grade;

<u>Road</u>	<u>Stations</u>
R-2600	26+50 to 93+50

9.1-3

- On the following roads, deactivation shall consist of:
- Revegetation of landings, cut slopes, road surface and fill slopes. Application rate shall be 35 lbs of seed mix per acre and 60 lbs. of fertilizer per acre. Seed mix shall be: intermediate wheatgrass 15 lbs. per acre, smooth brome 10 lbs. per acre, hard fescue 10 lbs. per acre. Seed shall be certified. Fertilizer shall be 16-16-16 or other fertilizer as approved in writing by the contract administrator. Seed and fertilizer shall be applied between October 1 and November 15.

<u>Road</u>	<u>Stations</u>	<u>Estimated Quantity*</u>
R-2600	26+50 to 93+50	100 lbs seed/170 lbs fertilizer

*Quantities are estimate only. Actual quantities may vary and are the responsibility of the purchaser.

9.1-4

- On the following road, an earth barricade shall be constructed in accordance with the Earth Barricade Detail, and as located on the Earth Barricade List.

<u>Road</u>	<u>Stations</u>
R-2600	13+20, 13+50

SECTION 9.2 - ROAD AND LANDING DEACTIVATION: ROAD CLOSURE

9.2-1

- On the following roads, closure shall consist of:
- outsloping the surface at a minimum of 4 percent;
 - constructing undrivable water bars in conformance with the attached Undrivable Water Bar Detail at a spacing which will produce a vertical drop of no more than 20 feet between water bars (or existing roll dips) and with a maximum spacing of 200 feet;
 - skewing water bars at least 30 degrees from perpendicular on roads in excess of 3 percent grade;

<u>Road</u>	<u>Stations</u>
R-2530	0+00 to 41+10
R-2650	0+00 to 5+60
R-2670	0+00 to 8+90
R-2690	0+00 to 16+45

9.2-2

- On the following road, an earth barricade shall be constructed in accordance with the Earth Barricade Detail, and as located on the Earth Barricade List.

<u>Road</u>	<u>Stations</u>
R-2530	16+00

9.2-3

On the following roads, closure shall consist of:
 Revegetation of landings, cut slopes, road surface and fill slopes. Application rate shall be 35 lbs of seed mix per acre and 60 lbs. of fertilizer per acre. Seed mix shall be: intermediate wheatgrass 15 lbs. per acre, smooth brome 10 lbs. per acre, hard fescue 10 lbs. per acre. Seed shall be certified. Fertilizer shall be 16-16-16 or other fertilizer as approved in writing by the contract administrator. Seed and fertilizer shall be applied between October 1 and November 15.

<u>Road</u>	<u>Stations</u>	<u>Estimated Quantity*</u>
R-2530	0+00 to 41+10	50 lbs seed/80 lbs fertilizer
R-2650	0+00 to 5+60	8 lbs seed/14 lbs fertilizer
R-2670	0+00 to 8+90	10 lbs seed/16 lbs fertilizer
R-2690	0+00 to 16+45	20 lbs seed/35 lbs fertilizer

*Quantities are estimate only. Actual quantities may vary and are the responsibility of the purchaser.

SECTION 10 - ROAD AND LANDING ABANDONMENT

10.1-1

On the following roads, light abandonment shall consist of:

- ripping the road surface to a minimum depth of six inches;
- constructing undrivable water bars in conformance with the attached Undrivable Water Bar Detail at a maximum spacing which will produce a vertical drop of no more than 20 feet between water bars or between natural drainage paths and with a maximum spacing of 200 feet;
- skewing water bars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3% grade;
- scattering slash on road surface at locations as directed by the Contract Administrator;

<u>Road</u>	<u>Stations</u>
R-2510	50+70 to 54+20
R-2520	0+00 to 11+00
R-2540	0+00 to 19+50

10.1-2

On the following road, earth barricades shall be constructed in accordance with the Earth Barricade Detail, and as located on the Earth Barricade List.

<u>Road</u>	<u>Stations</u>
R-2510	50+70 to 52+50

10.1-3

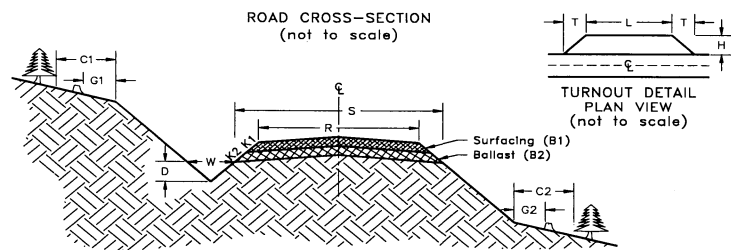
On the following roads, abandonment shall consist of:
 Revegetation of landings, cut slopes, road surface and fill slopes. Application rate shall

be 35 lbs of seed mix per acre and 60 lbs. of fertilizer per acre. Seed mix shall be: intermediate wheatgrass 15 lbs. per acre, smooth brome 10 lbs. per acre, hard fescue 10 lbs. per acre. Seed shall be certified. Fertilizer shall be 16-16-16 or other fertilizer as approved in writing by the contract administrator. Seed and fertilizer shall be applied between October 1 and November 15.

<u>Road</u>	<u>Stations</u>	<u>Estimated Quantity*</u>
R-2510	50+70 to 54+20	5 lbs seed/8 lbs fertilizer
R-2520	0+00 to 11+00	12 lbs seed/20 lbs fertilizer
R-2540	0+00 to 19+50	22 lbs seed/38 lbs fertilizer

*Quantities are estimate only. Actual quantities may vary and are the responsibility of the purchaser.

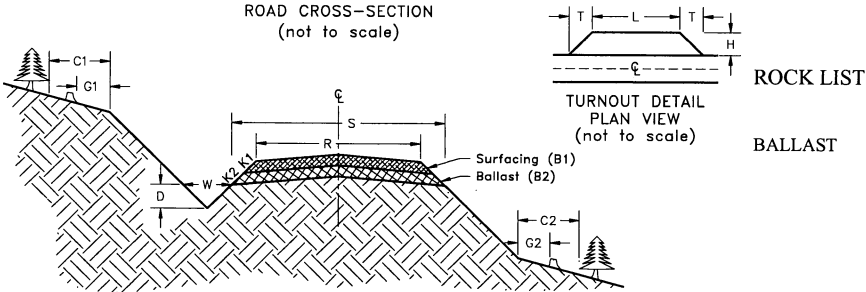
TYPICAL SECTION SHEET



NOTE: GRUBBING LIMITS FOR PRE-HAUL OR RECONSTRUCTION ARE 1' BEYOND EDGE OF ROAD OR BACK OF DITCH. CLEARING LIMITS POSTED WITH RIGHT OF WAY TAGS AND YELLOW FLAGGING. IF NOT POSTED, 5' BEYOND EDGE OF ROAD.

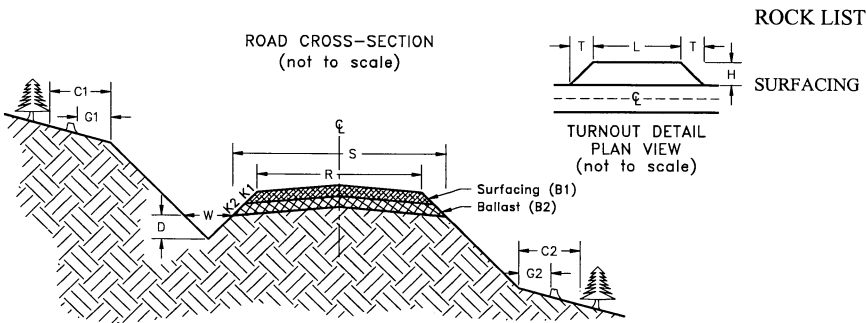
ROAD	CONSTRUCTION/ RECONSTRUCTION/ PRE-HAUL	FROM STATION	TO STATION	TOLERANCE CLASS	SUBGRADE WIDTH S	INSLOPE INCHES IN 10 FEET	OUTSLOPE INCHES IN 10 FEET	ROAD WIDTH R	DITCH WIDTH W	DEPTH D	GRUBBING LIMITS G1 G2	CLEARING LIMITS C1 C2	TAPER T	TURNOUT LENGTH L	WIDTH W	COMMENTS
R-2500	PURCH. MAINT.	0+00	75+95	N/A							N/A	N/A				
R-2500	PRE-HAUL MAINT.	75+95	140+25	C	14'		4"				N/A	SEE NOTE				
R-2530	CONSTRUCTION	0+00	13+80	B	12'		4"				1'	1'				
R-2530	CONSTRUCTION	13+80	23+60	B	12'	4"					1'	1'				
R-2530	RECONSTRUCTION	23+60	36+50	C	12'		4"				SEE NOTE	POSTED				
R-2530	CONSTRUCTION	36+50	41+10	C	12'		4"				SEE NOTE	POSTED				
R-2600	PURCH. MAINT.	0+00	26+50	N/A							N/A	N/A				
R-2600	PRE-HAUL MAINT.	26+50	93+50	C	14'		4" IN/OUTSLOPE (SEE CLAUSE 6.1-1)				N/A	POSTED				
R-2650	RECONSTRUCTION	0+00	5+60	C	12'		4"				SEE NOTE	POSTED				
R-2670	RECONSTRUCTION	0+00	8+90	C	12'		4" IN/OUTSLOPE (SEE CLAUSE 6.1-1)				SEE NOTE	POSTED				
R-2690	RECONSTRUCTION	0+00	16+45	C	12'		4"				SEE NOTE	POSTED				

Charlie Horse Timber Sale
Contract # 71889



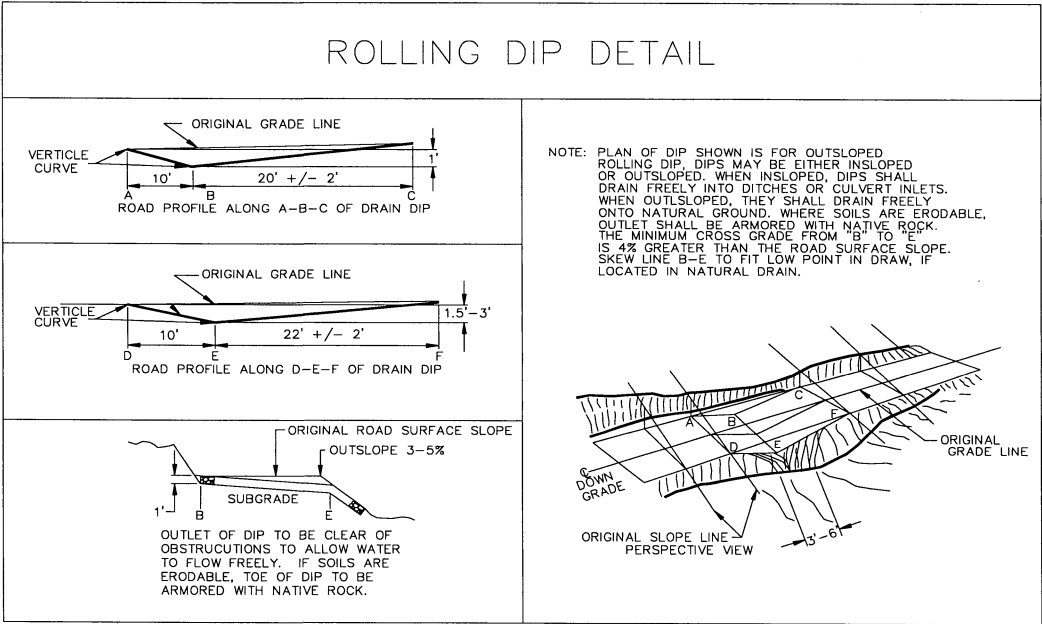
Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2					L	H	T
R-2600	56+90	60+00	1:1	4"	17.3	2.9	50	BORROW SITE			

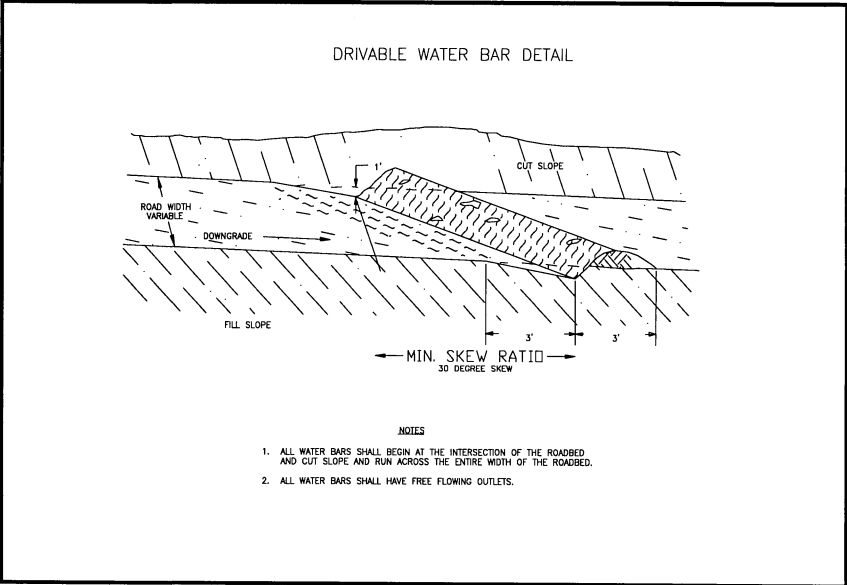
BALLAST TOTAL _50_ Cubic Yards



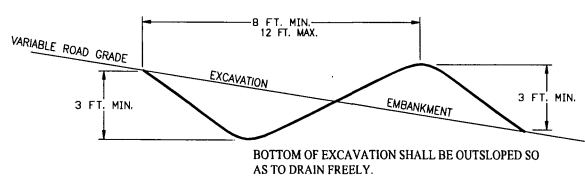
Road Number	From Station	To Station	Rock Slope K:1	Compacted Rock Depth B1	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length L	Width H	Taper T
R-2500	135+20	135+95	1:1	5"	27	0.75	20	COMMERCIAL			
R-2600	56+90	60+00	1:1	4"	17	2.9	50	COMMERCIAL			

SURFACE TOTAL 70 Cubic Yards

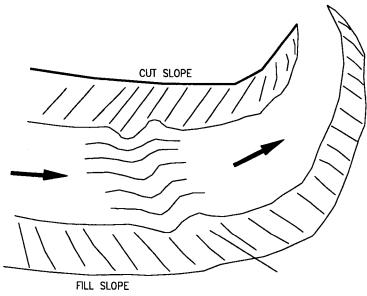




UNDRIVABLE WATER BAR DETAIL

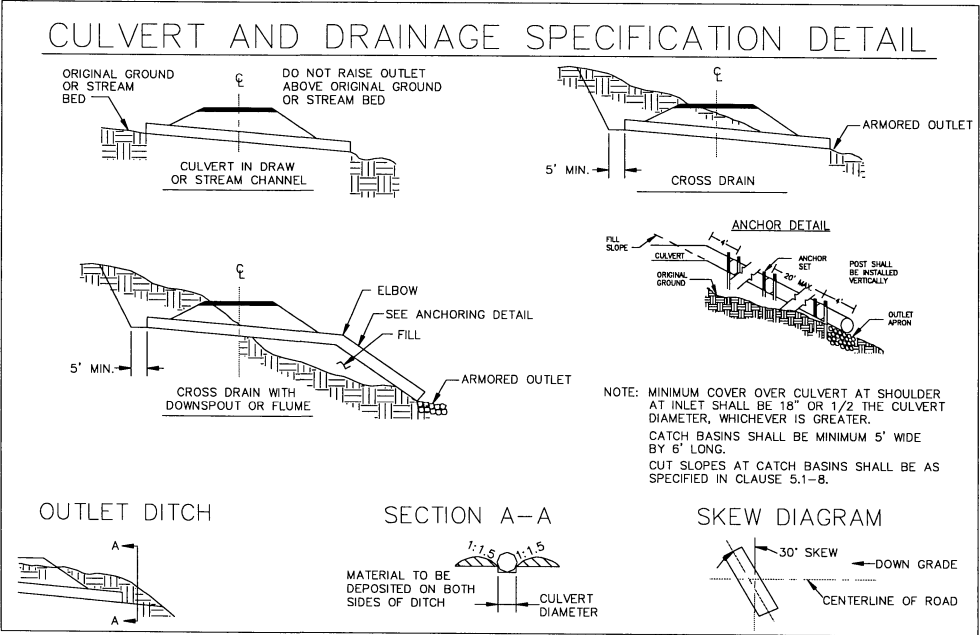


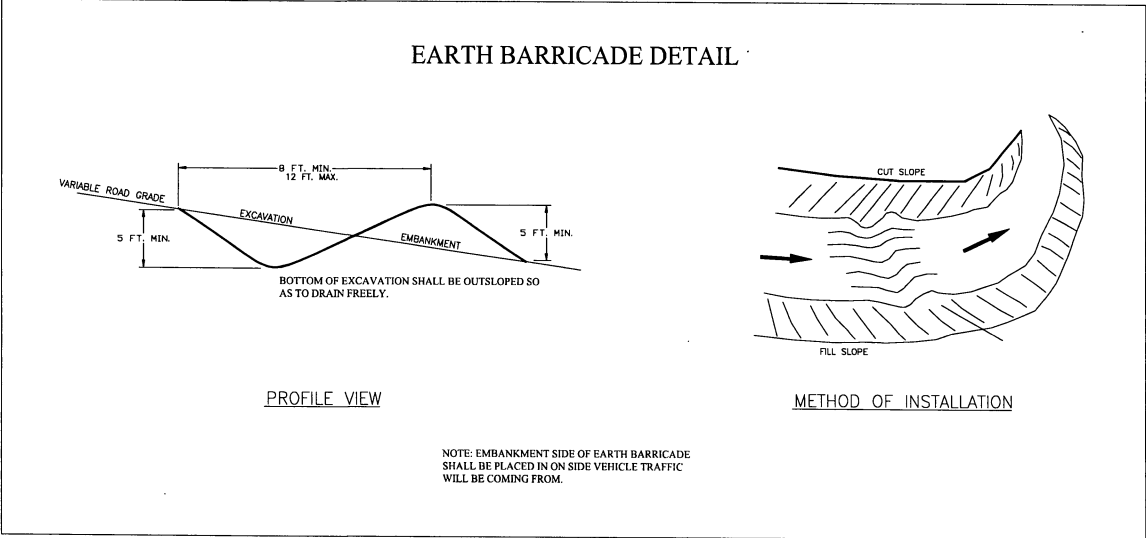
PROFILE VIEW



METHOD OF INSTALLATION

NOTE: EMBANKMENT SIDE OF UNDRIVABLE WATER BAR SHALL BE PLACED IN ON SIDE VEHICLE TRAFFIC WILL BE COMING FROM.





CULVERT LIST

<u>Road</u>	<u>L-Station</u>	<u>Diameter</u>	<u>Gauge</u>	<u>Length</u>	<u>Headwall</u>	<u>Remarks</u>
R-2500	135+45	24"	16	34'	MORTARED (SEE CLAUSE 6.5-1)	SMALL PERENNIAL STREAM

EARTH BARRICADE LIST

<u>Road</u>	<u>L-Station</u>	<u>Remarks</u>
R-2510A	50+70	CONSTRUCT AS PER DETAIL
R-2510A	52+50	CONSTRUCT AS PER DETAIL
R-2530	16+00	CONSTRUCT AS PER DETAIL
R-2600	13+20	CONSTRUCT AS PER DETAIL
R-2600	13+50	CONSTRUCT AS PER DETAIL

ROLLING DIP LIST

<u>Road</u>	<u>L-Station</u>	<u>Remarks</u>
R-2500	75+95	CONSTRUCT AS PER DETAIL
R-2500	82+95	CONSTRUCT AS PER DETAIL
R-2500	87+45	CONSTRUCT AS PER DETAIL
R-2500	92+10	CONSTRUCT AS PER DETAIL
R-2500	100+65	CONSTRUCT AS PER DETAIL
R-2500	104+15	CONSTRUCT AS PER DETAIL
R-2500	110+60	CONSTRUCT AS PER DETAIL
R-2500	113+90	CONSTRUCT AS PER DETAIL
R-2500	119+50	CONSTRUCT AS PER DETAIL
R-2500	122+90	CONSTRUCT AS PER DETAIL
R-2500	128+55	CONSTRUCT AS PER DETAIL
R-2500	132+00	CONSTRUCT AS PER DETAIL
R-2530	5+60	CONSTRUCT AS PER DETAIL
R-2530	10+20	CONSTRUCT AS PER DETAIL
R-2530	13+80	CONSTRUCT AS PER DETAIL
R-2530	23+60	CONSTRUCT AS PER DETAIL
R-2530	30+00	CONSTRUCT AS PER DETAIL
R-2530	33+50	CONSTRUCT AS PER DETAIL
R-2600	26+50	CONSTRUCT AS PER DETAIL
R-2600	35+45	CONSTRUCT AS PER DETAIL, WITH LEAD OUT
R-2600	42+40	CONSTRUCT AS PER DETAIL
R-2600	49+70	CONSTRUCT AS PER DETAIL
R-2600	56+90	CONSTRUCT AS PER DETAIL
R-2600	60+00	CONSTRUCT AS PER DETAIL
R-2600	65+90	CONSTRUCT AS PER DETAIL
R-2600	70+70	CONSTRUCT AS PER DETAIL
R-2600	77+75	CONSTRUCT AS PER DETAIL
R-2600	87+15	CONSTRUCT AS PER DETAIL
R-2650	4+00	CONSTRUCT AS PER DETAIL
R-2670	1+40	CONSTRUCT AS PER DETAIL
R-2670	7+80	CONSTRUCT AS PER DETAIL
R-2690	2+55	CONSTRUCT AS PER DETAIL
R-2690	7+95	CONSTRUCT AS PER DETAIL
R-2690	12+60	CONSTRUCT AS PER DETAIL

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

FOREST ACCESS ROAD
MAINTENANCE SPECIFICATIONS

A. Cuts and Fills

1. Maintain slope lines as constructed. Remove slides from the ditches and roadway. Replace fills to 1 1/2:1 slopes with selected material or as directed. Remove overhanging material from the cut slopes.
2. Material from slides or other sources requiring removal shall not be deposited in streams or at locations where it will erode into streams or watercourses.
3. Undesirable slide materials and debris shall not be mixed into the surface material.

B. Surface

1. Grade and shape the road surface, turnouts, and shoulders to the original crown, inslope or outslope as directed to provide suitable traveled surface and surface water runoff in an even, unconcentrated manner.
2. Blading must not undercut the backslope at the bottom of the ditchline or cut into geotextile fabric on the road.
3. If required in writing by the SE Region Engineer, water shall be applied as necessary to abate dust.
4. Desirable surface material shall not be bladed off the roadway.
5. Replace surface material lost or worn away.
6. Remove berms except as directed by the State.
7. Barrel spread soft spots to prevent degradation of geotextile.

C. Drainage

1. Keep ditches and drainage channels at outlets and inlets of culverts clear of obstructions and functioning as intended.
2. Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This must be done even during periods of inactivity.
3. Add stable material at the outlet end of the cross drain culvert as needed to stabilize the soil.
4. Headwalls: maintain to the road shoulder level with material that will resist erosion.
5. Prevent sediment bearing surface runoff from entering live streams.

D. Structures

Repair bridges, culverts, cattle guards, fences, and other road structures to the condition required by the construction specifications.

E. End of Season

Do maintenance work to minimize damage from the elements such as blading to insure correct runoff, ditch, and culvert cleaning and water bars.

F. Debris

Remove fallen timber, limbs, and stumps from the slopes or roadway.